

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/35124

## A. CLASSIFICATION OF SUBJECT MATTER

EPC(7) : GOIN 33/48; C12Q 1/68; G06F 7/00

US CL : 702/19-20; 435/6; 707/102

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 702/19-20; 435/6; 707/102

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
US Patent; WIPO; JAPIO; MEDLINE; CAPLUS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/019363 A1 (KAY et al) 24 July 2003 see entire document.	1-3, 13, 14
X	US 2003/0175772 A1 (WANG) 18 September 2003, see entire document.	1-3, 13, 14
x	US 2003/0180756 A1 (SHI et al) 25 September 2003, see entire document.	1-3, 13, 14

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or <i>cannot</i> be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

22 December 2005 (22.12.2005)

Date of mailing of the international search report

30 JAN 2006

Name and mailing address of the ISA/US

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## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claims Nos.: 4-12, 18-26, 35-39, 44-47  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of any additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-3, 13 and 14

- Remark on Protest**
- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
  - ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
  - ☐ No protest accompanied the payment of additional search fees.

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BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Group I, claim(s) 1-3, 13, 14, drawn to methods of identifying, designing, synthesizing siRNA's and a method using the siRNA for inhibiting expression.

Group II, claim(s) 15-17, 27, 28, drawn to methods of identifying, designing, synthesizing nucleotides that are NOT siRNA's and a method using the nucleotides.

Group III, claim(s) 29-34, drawn to siRNA molecules.

Group IV, claim(s) 40-43, drawn to miRNA molecules.

The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Inventions I-IV do not share the same special technical feature. Inventions I and II are drawn to differing methods having differing steps to find differing kinds of molecules. The special technical feature of each method are the steps therein. Inventions III and IV are drawn to opposite types of molecules. Invention IV is defined as not being one of Invention III. The special technical feature of each of III or IV are the features of the nucleotides. Each group of nucleotides has differing properties and functions. Invention I does not use or require the molecules of Invention IV, and Invention II does not use or require the molecules of Invention III. Therefore, Inventions I-IV do not share a special technical feature so linking the inventions. Further, the non-specific siRNA molecules of claim 29 are not a novel contribution over the art as evidenced by the references in the specification at page 1 (references 1-8). Further, the miRNA molecules of claim 40 are not a novel contribution over the art as evidenced by the references in the specification at page 1 (references 12-20).

NOTE: claims 4-12, 18-26, 35-39 and 44-47 are not in any group, as they are multiply dependent claims not drafted in accordance with PCT rules.